### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization International Bureau



## 

(43) International Publication Date 29 April 2004 (29.04.2004)

PCT

## (10) International Publication Number WO 2004/035693 A1

(51) International Patent Classification<sup>7</sup>: C09D 5/36

C09C 1/00,

(21) International Application Number:

PCT/EP2003/011077

(22) International Filing Date: 7 October 2003 (07.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02405887.7 16 October 2002 (16.10.2002) EP 02406009.7 21 November 2002 (21.11.2002) EP

(71) Applicant (for all designated States except US): CIBA SPECIALTY CHEMICALS HOLDING INC. [CH/CH]; Klybeckstrasse 141, CH-4057 Basel (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BUJARD, Patrice [CH/CH]; Oberer Rebbergweg 29, CH-4153 Reinach (CH). LEYBACH, Holger [DE/DE]; Landstrasse 15, 79650 Schopfheim (DE).

(74) Common Representative: CIBA SPECIALTY CHEMI-CALS HOLDING INC.; Patentabteilung, Klybeckstrasse 141, CH-4057 Basel (CH).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INTERFERENCE PIGMENTS ON THE BASIS OF SILICON OXIDES

(57) Abstract: The present invention relates to pigments, the particles of which generally have a length of from 2  $\mu$ m to 5 mm, a width of from 2  $\mu$ m to 2 mm, and a thickness of from 20 nm to 2  $\mu$ m, and a ratio of length to thickness of at least 2: 1, wherein the particles contain a core of SiO<sub>y</sub> with  $0.70 \le y \le 1.8$ , especially  $1.40 \le y \le 1.8$ , having two substantially parallel faces, the distance between which is the shortest axis of the core, comprising (a) a material, especially a metal oxide, having a high index of refraction; or (a) a thin semi-transparent metal layer; a process for their production and their use in paints, ink-jet printing, for dyeing textiles, for pigmenting coatings (paints), printing inks, plastics, cosmetics, glazes for ceramics and glass.